



When precision matters...™

TW3070/TW3072 GPS 40dB Timing Antenna

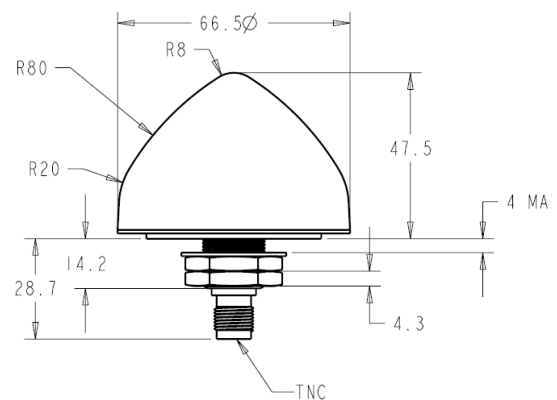
The TW3070/TW3072 by Tallysman Wireless is a professional grade, high gain, pre-filtered permanent mount, GPS L1 antenna especially designed for timing applications. It covers the GPS L1 and SBAS (WAAS/EGNOS/MSAS) frequency band (1572.5 to 1578 MHz).

The TW3070/TW3072 features a precisely tuned ceramic patch element and a three stage 40dB Low Noise Amplifier with a tight band-pass SAW filter between the first and second stages. An optional tight pre-filter is available with part number TW3072 to protect against saturation by high level sub-harmonics and L-Band signals.

The TW3070/TW3072 is housed in a permanent mount industrial-grade weather-proof enclosure with a white metal base and a white or grey conical enclosure, to discourage birds and shed snow and ice. Two options for pole mounting are available an L-bracket (P/N#23-0040-0) or a pipe mount (P/N#23-0065-0)



TW307X Dimensions (mm)



Applications

- Anti-Jamming GPS
- Military & Security
- Network Timing and Synchronisation
- Long Cable run installations

Features

- Narrow pass-band SAW pre-filter
- LNA Noise Figure: <1dB typ. (TW3070)
- Available tight pre-filter (TW3072)
- High LNA gain: 42 dB typ.
- Low current: 25 mA max.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.5 to 16 VDC

Benefits

- Great out-of-band signal rejection
- Ideal for high level RF environments
- Great multipath rejection
- Increase system accuracy
- Great signal to noise ratio
- Weather proof IP67 housing
- RoHS compliant



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Specifications Test Conditions: Vcc = 3V, over full bandwidth, T=25°C

Antenna

Architecture	Custom single-feed ceramic patch
Antenna Gain (100mm ground plane)	5 dBic at 90° on 100mm Ground Plane
Polarization	RHCP
Axial Ratio	4 dB at 90°, 6dB at 20°

Electrical

Architecture	1 st LNA, in-line SAW filter, two stage LNA (TW3070) SAW Filter, 1 st LNA, SAW filter, two stage LNA (TW3072)
Frequency Bandwidth	1572.5 to 1578 MHz
LNA Gain (including SAW pre-filter)	40 dB min. at 90° (at 1575.42 MHz)
Out-of-Band Rejection	<1500 MHz >35 dB (TW3070) >50dB (TW3072) <1550 MHz >25 dB (TW3070) >50dB (TW3072) <1640 MHz >35 dB (TW3070) >70dB (TW3072)
VSWR (at LNA output)	<1.5:1
Noise Figure	<1dB typ (TW3070) <3.5 dB typ. (TW3072)
Supply Voltage Range	+2.5 to 16 VDC nominal
Supply Current	15mA typ (25°C) 25 mA Max. (85°C)
ESD Circuit protection	15 KV air discharge

Mechanicals & Environmental

Mechanical Size	66.5 mm dia. x 47.5 mm H
Operating Temp. Range	-40 to +85 °C
Enclosure	Radome: White or Dark Grey ASA Plastic, Base: Zamak White Metal
Weight	150 g
Attachment Method	L-Bracket: P/N# 23-0040-0/ 42mm Pole adaptor P/N 23-0065-0
Environmental	IP67 and RoHS compliant
Shock	Vertical axis: 50 G, other axes: 30 G
Vibration	3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G
Warranty	One year – parts and labor

Ordering Information

Legacy Part Numbers:

TW307X –40dB Timing Antenna with conical radome	32-307X-yy-zz
X=0: TW3070 X=2: TW3072	
Connector: yy = 00, TNC yy=01: N Type (extra charges apply)	
Colour : zz=00: Grey; zz=01: White	

* As a result of a growing product portfolio, Tallysman has rationalized its part number system. No changes have been made to the mechanical or electrical properties of these products. Where administratively possible, please use the following Part Numbers.

TW3040 – GPS 40dB Timing antenna 33-3040-xx-yy-zzzz TW3042 - 33-3042-xx-yy-zzzz

Where xx = connector type, yy = type and colour of radome, and zzzz = cable length in mm (where applicable)

Please refer to the Ordering Guide (<http://www.tallysman.com/orderingguide.php>) for the current and complete list of available radomes and connectors.

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